

REMARKS

As an initial matter, the Applicant thanks the Examiner for the acknowledgment that Claims 1-13, and 17-20 are allowed over the prior art of record with Claim 17 objected to as stated in paragraph 2 of the Office action. Office action, page 4, paragraph 6. The Applicant also wishes to thank the Examiner for the acknowledgment that Claims of 23-29 would be allowable if written in independent form including all limitations of the base claim and any intervening claims. Office action, page 4, paragraph 7.

The Applicant has amended the specification to correct some informalities. The Applicant has also enclosed herewith new formal drawings (FIGS. 1, 2, 4-7) to be substituted for the drawings as originally filed to correct some informalities. Office action, page 2, paragraph 1. The substitute drawings include changes to FIGS. 1, 2, 4-7. FIG. 1 has been modified to add reference #38 and reference #46. FIG. 2 has been modified to show the proper capacitor power formula "P=1/2CV²." FIG. 4 has been modified to add reference #38 and reference #46. FIG. 5 has been modified to add reference #38 and reference #46. FIG. 6 has been modified to add reference #38. FIG. 7 has been modified to add reference #38.

The Applicant has also amended Claim 17, without prejudice, to correct the logical error noted by the Examiner. Office action, page 2, paragraph 2. The Applicant has also amended Claims 9, 19, 21, and 26 without prejudice, due to some informalities and Claims 30 and 31, without prejudice to further clarify the language of the claims. The Applicant has also amended Claims 14 -16, without prejudice, to more clearly state the scope of said claims. The Applicant has added new Claims 32-37. The Applicant submits that these minor amendments and corrections herein are all made without prejudice, and that no new matter has been added.

Claim 14-16 and 21, 22, 30-31 Are Nonobvious.

The Examiner rejected independent Claims 14 and 21 and dependant Claims 15-16, 22, and 30-31 under 35 U.S.C. 103(a) as being unpatentable over Burke, U.S. Patent No. 6,242,887B1 (hereinafter "Burke '887") in view of Clerici, U.S. Patent No. 5,207,194 (hereinafter "Clerici '194." The Applicant respectfully disagrees.

No Prima Facie Case of Obviousness.

The Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); *see also* MPEP 706.02(J).

No suggestion or motivation to combine references.

The Applicant respectfully submits that the Examiner has failed to meet the first element of a *prima facie* case for obviousness. First, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Examiner has the burden of showing, as such, and has not met it here.

Regarding Claims 14 and 21, the Examiner states:

Burke teaches a user-actuated ignition system for starting an internal combustion engine in a vehicle, the system comprising: a starter (16) responsive to the user and having an electrically driven motor to crank the engine (12); an alternator (14); and a capacitor (30) electrically connected to the starter to provide power for driving the motor of the starter and thereby enabling the starter to crank the engine and to the alternator for receiving power from the alternator when the alternator is generating electrical current (col. 2, line 55-col. 3, line 34).

Office action, paragraph 4, page 3.

The Examiner also states:

Burke does not specifically disclose providing an n-celled capacitor, wherein the number of cells, n, corresponds to the amount of power delivered to the starter by the capacitor and the amount of power delivered from the alternator to the capacitor. However, Clerici teaches a system for starting an engine comprising a plurality of capacitors corresponding to

the amount of power delivered to the starter by the capacitors and the amount of power delivered from the alternator to the capacitors (col. 3, line 14).

Office action, paragraph 4, page 3.

The Examiner next expounds his rationale for combining references.

The Examiner states:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Burke with the teachings of Clerici such that a plurality of capacitors is provided for the purpose of providing a starting system with the appropriate starting power needed.

Office action, paragraph 4, page 3.

Neither Burke '887 nor Clerici '194 recognize, or try to solve, the problems with having the ignition and powering system that does not provide cranking power to an engine independently of whether or not power is available from a conventional battery. Burke '887, similar to Tsuchiya et al., U.S. Patent No. 5,146,095 (hereinafter "Tsuchiya '095"), titled "Low Discharge Capacitor Motor Starter System," cited in the background section of the application (page 4, lines 9-30), suggests supplementing the power supplied by a conventional vehicle battery by adding a "supplemental electrical system" including an electrochemical capacitor that is charged by the primary electrical system of the vehicle and is protected against excessive discharge. *See Burke '887, abstract, and col. 2, lines 3-7.* Also, similar to Tsuchiya '095, the battery in the Burke '887 reference remains essential because it is the battery that maintains the charge of the capacitor. *See Burke '887, Fig. 1 (showing charging path 32 connected through battery optimizer 42 to the positive terminal of the battery 18 at its connection to the solenoid switch 20).* Clerici '194, specifically cited in the background section of the Applicant's application (page 4, line 31-page 5, line 13) suggests using a capacitor 5 or battery of capacitors to supply power to the starter 4 to crank a vehicle engine by providing a set of switches 9, 11, that in a "second condition" connect the capacitor 5 or battery of capacitors to the starter 4 to power the starter 4, and in the "first condition" connect the capacitor 5 to the battery 1 through the resistor 10 so that the capacitor 5 can be charged. *See Clerici '194, col. 2, lines 50-68.* Both Burke '887 and Clerici '194 require an adequately charged battery in order to charge the

capacitor, and in both references, a weakened battery will serve to drain some of the potential power available in the capacitor during engine start.

Not only is there nothing explicit in either of the two references that would suggest combining them, there is also nothing implicit suggesting combining the references, as the combined teachings, knowledge of one of ordinary skill in the art, and nature of the problem to be solved, as a whole, would not suggest doing so to those of ordinary skill in the art as is required in MPEP 2143.01 and *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). As can be seen by reviewing Applicant's "Background of the Invention," the Examiner has attempted to combine art the Applicant has analogously stated as being insufficient (Burke '887) with art that the Applicant has expressly stated as being insufficient (Clerici '194). Neither of the two prior art references teach combining the references.

The Examiner suggests:

[i]t would have been obvious to one with ordinary skill in the art to modify the teachings of Burke '887 with the teachings of Clerici '194 such that a plurality of capacitors is provided for the purpose of providing a starting system with the appropriate starting power needed.

Office action, paragraph 4, page 3.

Burke '887, however, suggests using a capacitor of the type known in the art as an electrochemical capacitor (col. 2, lines 5-7) and using a battery optimizer 42 which directly or indirectly causes the application of a higher voltage to the existing capacitor at lower temperatures. Burke '887 does not suggest the need for changing the number of cells n used, as a substitute power enhancing methodology, in place of using the battery optimizer 42 (col. 2, lines 55-61 and Fig. 2). Nor does Clerici '194 suggest the need for a battery optimizer or discharge protection circuit as used in Burke '887. Clerici '194, in fact, does not suggest the need to adjust the voltage. Clerici '194 merely suggests adding capacitors to form a battery of capacitors to adjust the overall capacitance, and thus adjust overall power. Clerici '194, col. 3, lines 14-32. In essence, Burke '887 indirectly teaches away from the Clerici '194 reference in its methodology of increasing cold temperature power, and Clerici '194 indirectly teaches away from the Burke '887 reference. It is only in the Applicant's application that the use of both methodologies for increasing power are suggested. Therefore, the combined teachings, knowledge of one of

ordinary skill in the art, and nature of the problem to be solved, when properly taken for what each teaches as a whole, do not suggest combining the two prior art references.

Second, even if the references somehow could be combined or modified, this still is not sufficient to establish a *prima facie* obviousness rejection unless the prior art also suggests the desirability of the combination. MPEP 2143.01. Not only is there no suggestion as to the desirability of the combination, discussed above, the cited art does not show it would be obvious to a person of ordinary skill in the art "at that time" to combine the references. The Burke '887 reference was filed at a "similar time," less than two months prior to Provisional Application No. 60/238,903 of which this application claims priority (*See* Application, page 1, "Related Applications" section), but fails to suggest any desirability of using the Clerici '194 methodology. Additionally, the combination would not improve either reference to a point of featuring the same charging methodology (Claim 14) or capacitor isolation methodology (Claim 21) as described in the application. *See* Claims 14 and 21.

Third, the Examiner's statement, alone, that "[i]t would have been obvious to one with ordinary skill in the art to modify the teachings of Burke '887 with the teachings of Clerici '194 such that a plurality of capacitors is provided for the purpose of providing a starting system with the appropriate starting power needed" (Office action, paragraph 4, page 3) is insufficient to establish a *prima facie* case of obviousness. Even assuming a motivation and an ability to combine the references, MPEP 2143.01 states: "the fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness." And yet, nothing else has been shown by the Examiner.

No reasonable expectation of success.

The Examiner has also failed to meet the second element of a *prima facie* case for obviousness because there must be, and there is not in this present case, a reasonable expectation of success. Clearly, from the discussion above and a quick examination of the figures of the two references, one would realize that the combination of the two prior art references will not result in the claimed invention and will not improve either reference to a point of featuring the same charging methodology or same isolation methodology as that described and claimed in the application.

The prior art references do not teach or suggest all the claim limitations.

Finally, the Applicant respectfully submits that the Examiner has failed to meet the third element of a *prima facie* case for obviousness which requires all claimed limitations be taught or suggested. Regarding Claim 14, Burke '887 does not teach that its capacitor 30 is an n-celled high-density capacitor. *See* Burke '887, Fig. 1. Nor does Clerici '194 teach an n-celled high-density capacitor either. Clerici '194 instead teaches use of a capacitor 5 or "battery of capacitors" connected to storage battery 1. *See* Clerici '194, col. 2, lines 63-67. Also, neither reference discloses an n-celled high-density capacitor connected to an alternator through a power delivery controller responsive to the alternator for receiving power from the alternator when the alternator is generating electrical current. / Regarding Claim 21, neither reference suggests a capacitor having at least eleven cells . . . to provide a voltage greater than 14.6V during normal operating conditions nor preventing delivery of power from the capacitor to the electrical system when the engine is not being started. Both references, under normal conditions show a connection of the capacitor directly or indirectly to the battery and, therefore, to the electrical system when the engine is not being started. *See* Burke '887, FIG. 1 and Clerici '194, FIG. 1.

Therefore, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness because, as a minimum, he has neither shown that when combined, Burke '887 and Clerici '194 teach or suggest all the claim limitations, nor has he shown some suggestion or motivation, either in Burke '887, Clerici '194 or in the knowledge generally available to one of ordinary skill in the art, to modify the Burke '887 or to combine the teachings of Burke '887 and Clerici '194, as required in MPEP 2143. Claims 14 and 21, thus, should be in allowable form. Additionally, because Claims 15 and 16 are dependent upon Claim 14 and because Claims 22, and 30-31 are dependent upon Claim 21, they also should also be in allowable form.

Nevertheless, dependent Claims 15-16, 22, and 30-31 are independently novel. Neither reference discloses a power delivery control override responsive to the user allowing the user to selectively connect the capacitor to at least one vehicle engine control unit, as featured in Claim 15, as amended. Neither reference discloses selectively supplying power from the capacitor to the electrical system by a user, as featured in Claims 30 and 31, as amended. Neither reference discloses an n-celled capacitor with each cell added providing an incremental power increase of

greater than about 1.96 times the product of the capacitance and number of cells, as featured in Claim 16, as amended. Also neither reference discloses providing a voltage with an enhanced-power capacitor of at least 15.0 volts under normal operating conditions, as featured in Claim 22.

Basic Tenets of Patent Law Are Not Adhered To.

"When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined." See MPEP 2141. The Applicants respectfully submit, however, that as a minimum, the Examiner has violated tenet "(B)" and "(C)" by not viewing the references as a whole and by using impermissible hindsight.

Burke '887 and Clerici '194 Were Not Considered For What They Teach As a Whole.

The Applicant respectfully submits that the Examiner did not take Burke '887 or Clerici '194 for what they teach as a whole, but instead piecemealed selected portions in order to fill Applicant's invention. This is clear from the fact that neither reference discloses an n-celled capacitor and the fact that both references have their capacitor or bank of capacitors directly or indirectly slaved to the battery instead of the alternator, as discussed above.

Impermissible Hindsight.

The Applicant respectfully submits that the Examiner is using improper hindsight by using the present application as a road map to somehow improperly arrive at the claimed invention. The Applicant submits that the Examiner has merely extracted elements of Clerici '194 and Burke '887 to try to build the Applicant's invention. As previously discussed, there is nothing in the references or in the problems that they wished to solve that would provide to one skilled in the art the knowledge necessary (problem or solution) to build the Applicant's invention. Thus, the combination of Burke '887 and Clerici '194 is impermissible.

Accordingly, Claim 14 and Claim 21 are nonobvious and define over the cited art. The Applicant respectfully submits that Claims 14 and 21 have been shown to be allowable, Claims

15-16 as dependent upon Claim 14, and Claims 22, 30, and 31 as dependent upon Claim 21, respectively, include other patentably distinct features and have also been shown to be allowable and define over the cited art. New Claims 32-37 are also patentably distinct and more clearly focus on the feature whereby the charging of the capacitor is completely independent of the power status or even the existence or nonexistence of a battery, and therefore also should be allowable.

Conclusion

In view of the amendments and remarks set forth herein, Applicants respectfully submit that the application is in condition for allowance. Accordingly, the issuance of a Notice of Allowance in due course is respectfully requested.

Respectfully submitted,

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Date: 6/5/03

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